



Binary GCD algorithm in C

Source: http://en.wikipedia.org/wiki/Binary_GCD_algorithm
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The binary GCD algorithm, also known as Stein's algorithm, is an algorithm that computes the greatest common divisor of two nonnegative integers. It gains a measure of efficiency over the ancient Euclidean algorithm by replacing divisions and multiplications with shifts, which are cheaper when operating on the binary representation used by modern computers.

Following is an implementation of the algorithm in C, taking two (non-negative) integer arguments u and v . It first removes all common factors of 2 using identity 2, then computes the GCD of the remaining numbers using identities 3 and 4, and combines these to form the final answer.

